| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/825,071 | 04/03/2001 | John A. Aiken JR. | RSW920000153US1 | 1940 |

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|---|---|

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|---|
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| ART UNIT | PAPER NUMBER |
|---|---|
| 2154 | |

DATE MAILED: 08/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | Application No. | Applicant(s) |
| **Office Action Summary** | 09/825,071 | AIKEN, JOHN A. |
| | Examiner | Art Unit | |
| | Aaron C Perez-Daple | 2154 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on <u>03 April 2001</u>.

2a)☐ This action is **FINAL**.          2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) <u>1-37</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-37</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

## DETAILED ACTION

1.     This Action is in response to Application filed 4/3/01, which has been fully considered.

2.     Claims 1-37 are presented for examination.

3.     This Action is non-Final.

### *Claim Objections*

4.     **Claims 9, 10, 20, 21 and 31** are objected to under 37 CFR 1.75(c), as being of improper

dependent form for failing to further limit the subject matter of a previous claim.  Applicant

is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper

dependent form, or rewrite the claim(s) in independent form. Specifically, claims 9 and 10

depend from claim 7.  Claim 7 recites that, after the maximum duration of the affinity

expires, the step of bypassing normal workload balancing operations ceases for subsequent

connection request messages.  However, claims 9 and 10 require that the subsequent

connections requests, which are recited in claim 7 as occurring *after* the affinity expires (e.g.

after the maximum duration has been exceeded), extend the maximum duration.  Because it

is not possible to extend the duration of a time period that has already expired, it is not

possible for both claim 7 and claims 9 and 10 to be simultaneously true.  Moreover, claim 7

requires that the normal workload balancing operations apply to the subsequent connection

requests, whereas claims 9 and 10 require that these operations are bypassed for the

subsequent connection requests.  Once again, the claims are inconsistent.  Claims 18, 20 and

21 recite the same limitations as claims 7, 9 and 10, respectively.  Therefore, claims 20 and

21 are objected to for the same reasons. Claims 29 and 31 recite the same limitations as

claims 7 and 9, respectively. Therefore, claim 31 is objected to for the same reasons.

### *Claim Rejections - 35 USC § 112*

5.      The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6.      **Claims 1-11, 16-22 and 27-33** are rejected under 35 U.S.C. 112, second paragraph, as

being indefinite for failing to particularly point out and distinctly claim the subject matter

which applicant regards as the invention. Specifically, line 3 of claims 1 and 16 and line 4 of

claim 27 recite, "by an executing server application" where it appears that the claims should

recite --with an executing server application--. In addition, line 5 of claims 1 and 16 and line

7 of claim 27 recite, "responsive to the signaling." It is not clear what is being claimed as

"responsive." The Examiner interprets that bypassing normal workload operations occurs *in

response to* the signaling.

7.      As dependent claims, claims 2-11, 17-22 and 28-33 suffer from the same deficiencies as

claims 1, 16 and 27.

8.      **Claims 9, 10, 20, 21 and 31** are rejected under 35 U.S.C. 112, second paragraph, as

being indefinite for failing to particularly point out and distinctly claim the subject matter

which applicant regards as the invention. A dependent claim must include all the limitations

from the parent claim. Specifically, claims 9 and 10 depend from claim 7. Claim 7 recites

that, after the maximum duration of the affinity expires, the step of bypassing normal

workload balancing operations ceases for subsequent connection request messages.

However, claims 9 and 10 require that the subsequent connections requests, which are recited in claim 7 as occurring *after* the affinity expires (e.g. after the maximum duration has been exceeded), extend the maximum duration. Because it is not possible to extend the duration of a time period that has already expired, it is not possible for both claim 7 and claims 9 and 10 to be simultaneously true. Moreover, claim 7 requires that the normal workload balancing operations apply to the subsequent connection requests, whereas claims 9 and 10 require that these operations are bypassed for the subsequent connection requests. Once again, the claims are inconsistent. Therefore, claims 9 and 10 are rejected as indefinite. Claims 18, 20 and 21 recite the same limitations as claims 7, 9 and 10, respectively. Therefore, claims 20 and 21 are rejected as indefinite for the same reasons. Claims 29 and 31 recite the same limitations as claims 7 and 9, respectively. Therefore, claim 31 is rejected as indefinite for the same reasons.

9.      **Claims 12-15, 23-26 and 34-37** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, lines 11-12 of claims 12 and 23 and lines 13-14 of claim 34 recite "having one of the currently-active affinities with the particular one." This limitation is not clear to the Examiner. The Examiner interprets that the client application is identified *as having one of said one or more currently-active affinities with the particular one of the executing server applications.* In addition, lines 13-14 of claims 12 and 23 and line 16 of claim 34 recite, "using workload balancing otherwise." This limitation is not clear to the Examiner and it appears that it should be listed as a separate step. The

Examiner interprets that workload balancing is used if a currently-active affinity is not identified in the previous step.

10.    As dependent claims, claims 13-15, 24-26 and 35-37 suffer from the same deficiencies as claims 12, 23 and 34.

## *Claim Rejections - 35 USC § 102*

11.    The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

12.    **Claims 1-5, 11-13, 16, 22-24, 27, and 33-35** are rejected under 35 U.S.C. 102(e) as being anticipated by Modi et al. (US 6,587,866 B1) (hereinafter Modi).

13.    As for claims 1, 16 and 27, Modi teaches a method and system of providing server affinities for related connection request messages in networking environments which perform workload balancing, comprising steps of:

signaling, by an executing server application, that an affinity with a selected source is to be started (col. 9, line 66 – col. 10,line 46, "Fig. 6 is a...better load balancing."); and

bypassing normal workload balancing operations, responsive to the signaling, for subsequent connection request messages from the selected source while the affinity persists (col. 10, line 26 – col. 11, line 3, "If the service...and service port.").

14.     As for claim 2, Modi discloses the method according to claim 1, wherein the selected

source is a selected client (clients 121-123, Fig. 1).

15.     As for claim 3, Modi discloses the method according to claim 2, wherein the selected

client is identified by its Internet Protocol ("IP") address (col. 10, line 26 – col. 11, line 3, "If

the service...and service port.").

16.     As for claim 4, Modi discloses the method according to claim 2, wherein the selected

client is identified by its Internet Protocol ("IP") address and port number (col. 10, line 26 –

col. 11, line 3, "If the service...and service port.").

17.     As for claim 5, Modi discloses the method according to claim 1, wherein the selected

source is a selected client subnetwork (clients 121-123, Fig. 1).

18.     As for claims 11, 22 and 33, Modi discloses the method and system according to claims

1, 16 and 27, wherein the bypassing step causes the subsequent connection request messages

from the selected source to be routed to an instance of the executing server application which

signaled the affinity start (col. 15, line 45 – col. 16, line 9, "A fourth packet...the same

node.").

19.     As for claims 12, 23 and 34, Modi discloses the method and system of routing related

connection requests in a networking environment which performs workload balancing,

comprising steps of:

storing information for enforcing one or more currently-active affinities, responsive to

receiving start affinity requests for each such currently-active affinity from one or more

executing server applications (col. 10, line 26 – col. 11, line 3, "If the service...and service

port.");

receiving incoming connection requests from client applications (col. 2, line 48 – col. 3,

line 13, "Certain applications...and scalable service."); and

routing each received connection request to a proper one of the executing server

applications, further comprising steps of:

selecting a particular one of the executing server applications using the stored

information for enforcing affinities, when the client application sending the received

connection request is identified in the stored information as having one of the currently-

active affinities with the particular one (col. 10, line 26 – col. 11, line 3, "If the

service...and service port."; col. 15, line 45 – col. 16, line 9, "A fourth packet...the same

node."); and

selecting the particular one of the executing server applications using workload

balancing otherwise (Fig. 6; col. 10, line 26 – col. 11, line 3, "If the service...and service

port.").

20.      As for claims 13, 24 and 35, Modi discloses the method and system according to claims

12, 23 and 34, wherein the client application is identified as having one of the currently-

active affinities with the particular one if a destination address and destination port, as well as

a source address and optionally a source port number, of the connection request being routed

match the stored information (col. 10, line 26 – col. 11, line 3, "If the service...and service

port."; col. 15, line 45 – col. 16, line 9, "A fourth packet...the same node.").

## Claim Rejections - 35 USC § 103

21.    The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

22.    **Claims 6, 14, 17, 25, 28 and 36** are rejected under 35 U.S.C. 103(a) as being

unpatentable over Modi in view of Dutta et al. (US 6,546,423 B1) (hereinafter Dutta).

23.    As for claims 6, 17 and 28, although arguably inherent to Modi for managing the

affinities and preventing a memory overflow, Modi does not explicitly disclose signaling that

the started affinity (e.g. session) with the selected source is to be ended. Dutta teaches

signaling that the started affinity with the selected source is to be ended in order to save

memory resources (col. 4, lines 41-46, "In one embodiment...deleted, step 107."). It would

have been obvious to one of ordinary skill in the art to modify Modi by signaling that the

started affinity with the selected source is to be ended in order to save memory resources, as

taught by Dutta above. The Examiner notes that once this modification was made a

subsequent connection request would be processed via normal workload balancing

operations, since it would be treated as a new request.

24.    As for claims 14, 25 and 36, Modi does not explicitly disclose removing stored

information for enforcing selected ones of the currently-active affinities, responsive to

receiving an end affinity request from selected ones of the executing server applications

which stored the information. Dutta teaches removing stored information for enforcing

selected ones of the currently-active affinities, responsive to receiving an end affinity request

from selected ones of the executing server applications which stored the information for the purpose of saving memory resources (col. 4, lines 41-46, "In one embodiment...deleted, step 107."). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Modi by removing stored information for enforcing selected ones of the currently-active affinities, responsive to receiving an end affinity request from selected ones of the executing server applications which stored the information in order to save memory resources, as taught by Dutta above.

25.     **Claims 7-10, 15, 18-21, 26, 29-32 and 37** are rejected under 35 U.S.C. 103(a) as being unpatentable over Modi in view of Dutta in further view of Robsman et al (US 6,466,225 B1).

26.     As for claims 7, 18 and 29, Modi and Dutta do not specifically disclose that the affinity may persist for a maximum duration (i.e. may be terminated after a certain time period) before reverting to normal workload balancing operations. Robsman teaches that an affinity may persist for a maximum duration (e.g. timeout period) before reverting to normal workload balancing operations in order to free system resources (col. 1, lines 17-56, "The server runs...predefined time period."). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Modi and Dutta by having an affinity persist for a maximum duration before reverting to normal workload balancing operations in order to free system resources, as taught by Robsman above.

27.     As for claims 8, 19 and 30, Modi and Dutta do not specifically disclose that the executing server application may override the maximum duration when signaling the start of an affinity. Robsman teaches that an executing server application may override the maximum

duration when signaling the start of an affinity in order to keep an affinity active during communications (col. 2, line 28 – col. 3, line 6, "According to one…from the bucket."). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Modi and Dutta by having an executing server application override the maximum duration when signaling the start of an affinity in order to keep an affinity active during communications, as taught by Robsman above.

28.     As for claims 9, 10, 20, 21, 31 and 32, Modi and Dutta do not specifically disclose that a subsequent connection request message may automatically extend the maximum duration of the started affinity. Robsman teaches that a subsequent connection request message may automatically extend the maximum duration of a started affinity in order to keep an affinity active during communications (col. 2, lines 61-64, "A new session…timeout period.") It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Modi and Dutta by having a subsequent connection request message automatically extend the maximum duration of a started affinity in order to keep an affinity active during communications, as taught by Robsman above.

29.     As for claims 15, 26 and 37, Dutta teaches removing the stored information for enforcing selected ones of the currently-active affinities, responsive to termination of an affinity in order to save memory resources (col. 4, lines 41-46, "In one embodiment…deleted, step 107."). Dutta does not specifically teach that the termination of an affinity may occur responsive to expiration of a duration value. Robsman teaches that the termination of an affinity may occur responsive to expiration of a duration value for the purpose of freeing system resources (col. 1, lines 17-56, "The server runs…predefined time period."). It would

have been obvious to one of ordinary skill in the art at the time of the invention to modify the

teachings of Modi and Dutta by having the termination of an affinity occur responsive to

expiration of a duration value for the purpose of freeing system resources, as taught by

Robsman above.

### *Double Patenting*

30.     **Claims 1-37** are provisionally rejected under the judicially created doctrine of

obviousness-type double patenting as being unpatentable over claims 1-24 of copending

Application No. 09/824639.  Although the conflicting claims are not identical, they are not

patentably distinct from each other because all of the limitations of claims 1-37 have

equivalent limitations in claims 1-24 of 09/824639.

This is a provisional obviousness-type double patenting rejection because the conflicting

claims have not in fact been patented.

### *Conclusion*

31.     The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure. EP 0648038 A2, note Fig. 2; EP 1049307 A1, note cols. 2-3; US 6,578,066 B1,

note load-balancing with session management, col. 2, 3rd paragraph; US 6,252,878 B1,

teaches termination/expiration of user sessions; US 5,740,371, note dynamic load-balancing

on a per session basis; US 6,760,765 B1, note Fig. 2; US 6,760,745 B1, note Fig. 6; US

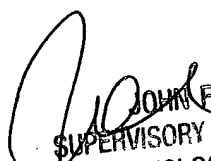6,609,148 B1, note load balancing with session management.

32.    Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Aaron C Perez-Daple whose telephone number is (703) 305-

4897.  The examiner can normally be reached on 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, John Follansbee can be reached on (703) 305-8498.  The fax phone number for

the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system.  Status information for published

applications may be obtained from either Private PAIR or Public PAIR.  Status information

for unpublished applications is available through Private PAIR only.  For more information

about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access

to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197

(toll-free).

7/23/04

Aaron Perez-Daple

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